

## The Effect of Adding Homeopathic Treatment to Rehabilitation on Speech and Social Development of Children with Cerebral Palsy

Firoozeh Sajedi <sup>\*1</sup>, MD; Vida Alizad <sup>2</sup>, BS; Fatemeh Behnia <sup>3</sup>, MSc

1. Children Development Committee, Department of Clinical Sciences, University of Welfare & Rehabilitation, IR Iran
2. Occupational Therapist, Developmental Disorder Center of Saba, IR Iran
3. Department of Occupational Therapy, University of Welfare & Rehabilitation, IR Iran

Received: 13/7/06; Revised: 16/10/06; Accepted:30/10/06

### Abstract

**Objective:** Cerebral palsy (CP) is a static encephalopathy. In addition to motor developmental delay, most patients have speech and social developmental delay. Recently, complementary medicine like homeopathy has been used in the treatment of neurodevelopmental disorders. This study has been conducted to determine the effect of adding homeopathic treatment to rehabilitation on speech and social development of children with spastic cerebral palsy.

**Material & Methods:** This study was a double blind clinical trial. Twenty-four subjects were recruited from a clinic in Tehran during 2004. In this study, minimization technique was used and subjects were divided into case and control groups. The routine rehabilitation techniques were performed for 4 months in both groups. The control group received placebo and the case group homeopathy drugs. The subjects were 1-5 years old with spastic cerebral palsy, speech and social developmental delay. Level of speech and social development were assessed by Denver Developmental Screening Test II (DDST II) in the two beginning of the study and 4 months later.

**Findings:** The average age, in the case and the control group was 28 and 28.4 months respectively. The level of speech and social development in the case group in comparison with the control group had no statistically significant difference (PV=0.17 and PV=1 respectively).

**Conclusion:** Adding homeopathy to rehabilitation had no significant effect on the level of speech and social development of CP children. Regarding the proved effects of homeopathy mentioned in different articles on the developmental status of children with CP, it is not possible to reject the effects of homeopathy on speech and social development of children with CP.

**Key Words:** Cerebral palsy, Speech and social development, Homeopathy, Developmental delay

\* Correspondence author.

Address: University of Welfare & Rehabilitation, Koodakyar St, Daneshjoo Blvd, Evin, Tehran, IR Iran E-mail: fisajedi@uswr.ac.ir

## **Introduction**

Cerebral palsy (CP) is an almost common disorder with an estimated prevalence of 2-4/1000 population. The main causes of CP are birth trauma, asphyxia, and prematurity. In spite of considerable advances in the obstetric field and neonatal care, there has been virtually no change in the incidence of CP during the last 2-3 decades [1]. Most patients with cerebral palsy have speech and social developmental delay. In order to treat CP, a team containing different specialists and therapists as well as parents cooperation is needed. There are different medical and rehabilitation interventions.

These interventions include occupational therapy, physical therapy, speech therapy, behavioral therapy, use of muscle relaxants, botox injection in spastic muscles and different surgical procedures [1, 2]. Beside the above mentioned interventions complementary medicine like homeopathy has been used in the treatment of pediatric neurodevelopmental disorders.

Complementary medicine was used mainly because of dissatisfaction with conventional medicine and fear of side effects of conventional treatments [3, 4].

Due to considerable improvement in some cases of CP children with homeopathy, we decided to determine the effect of this unconventional treatment on the levels of speech and social development in children with CP.

## **Material & Methods**

This study was a clinical trial-double blind-placebo-controlled study that was conducted during 2004. The subjects were recruited from a clinic (Developmental Disorder Center of Saba) in Tehran, Iran, that is associated to the University of Social Welfare and Rehabilitation Sciences (USWR). The study had the approval of Ethics Committee, of the USWR. Parents of each patient gave informed consent.

Inclusion criteria were: children of 1-5 years of age, mild to moderate spastic CP with speech and

social developmental delay and family cooperation. Exclusion criteria were severe mental retardation ( $IQ < 40$ ), genetic disorders like Down syndrome, convulsion and sensory disorders like blindness and deafness. In this study, 24 subjects, by using minimization technique, were divided into two groups: case and control. The children were selected based on age, sex and severity of CP. The number of samples in each group was 12. There was 3 losses in the control group and 5 in the case group, because of transport problems and aspiration pneumonia.

Pediatrician and an occupational therapist made the pre- and post treatment assessments of the patient. Rehabilitation was performed by a occupational therapist and drugs were recommended by a homeopath physician. The drugs that were used in this study were Silica, Lycopodium- Clavatum, Phosphorus (in many patients), Pulsatilla, Natrum-Muraticum, Opium, Gelsemium, Causticum, Calcarea Phosphorica, and Calcarea Carbonica. Both groups were visited before treatment, 1, 2 and 3 months after therapy by a homeopath physician and they received placebo or drugs blindly. Both groups received routine occupational therapy for 4 months.

Level of speech and social development in the beginning and the end of four months were assessed with Denver Development Screening Test II (DDST II). Data was collected by physical examination, direct observation and assessment of subjects based on check lists.

According to the distribution of variables parametric and non-parametric tests were used in order to analyse the data. The data were analyzed using SPSS statistical software (11<sup>th</sup> version), t-test, Chi<sup>2</sup> and Man-Whitney tests. Statistical significance was set at  $P=0.05$ .

## **Findings**

Nine subjects in the control group and 7 in the case group were studied. The average months in case group and control group was 28.0 (SD=12.2), 28.4(SD=10.1) respectively ( $P=0.4$ ).

**Table 1-** The level of speech development before and after treatment in the 2 groups

Level of speech development	Controls Mean (SD)	Cases Mean (SD)	PV
Before treatment	16.9 ( $\pm$ 7.8)	16.3 ( $\pm$ 14.6)	0.3
After treatment	23.6 ( $\pm$ 6.9)	19.9 ( $\pm$ 13.8)	0.1
Pre & post treatment differences	6.7 ( $\pm$ 3.6)	3.6 ( $\pm$ 3.9)	0.1

The level of speech development in the case group in comparison with the control group had no statistically significant difference ( $P=0.1$ ) (Table 1, diagram 1).

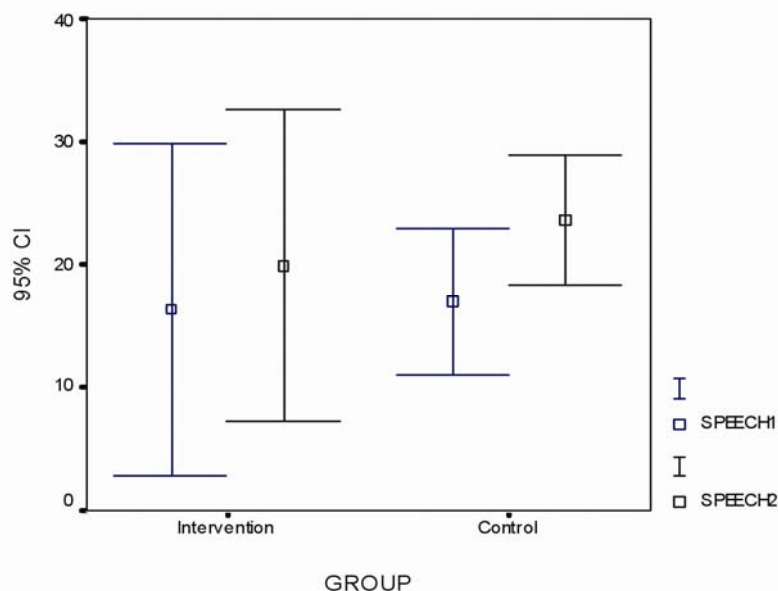
The level of the social development in the case group in comparison with the control group had no statistically significant difference ( $P=1$ ) (Table 2, diagram 2).

### Discussion

In this study we tested the influence of adding homeopathy to occupational therapy on the level of speech and social development of children with

spastic cerebral palsy (assessed with Denver Development Screening Test II). Based on the results of this study, there was no significant difference in level of speech and social development in the two groups.

There were some important limitations affecting this study. First, the drop-out rate primarily affected the case group. This was due to the complications of CP (like aspiration pneumonia) and transport problems, especially for patients from other cities. Second, homeopathy is young in Iran and many parents had no information about it, so they either mistrusted or

**Diagram 1-** The level of speech development before and after treatment in the 2 groups

**Table II:** The level of social development before and after treatment in the 2 groups

Level of speech development	Controls Mean (SD)	Cases Mean (SD)	PV
Before treatment	60.6 ( $\pm 6.8$ )	18.9 ( $\pm 12.0$ )	0.2
After treatment	24.1 ( $\pm 5.6$ )	22.4 ( $\pm 10.5$ )	0.2
Pre & post treatment differences	3.6 ( $\pm 5.3$ )	3.6 ( $\pm 5.0$ )	1

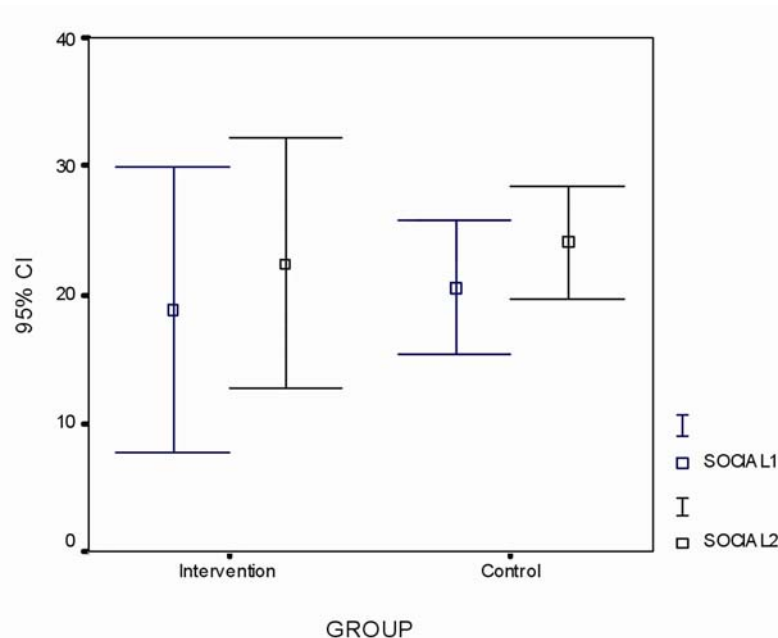
feared its side effects. Third, it was very difficult to motivate the patients to attend the clinic during the 4 months.

In one study, the use of complementary and alternative medicine (CAM) was common among pediatric neurology patients. Over half of the families reported benefits with CAM, and side effects were few.

Physicians should initiate discussion on CAM during the retient's visits at their clinic, so that the families and patients can make informed decisions about using CAM <sup>[5]</sup>.

Some studies showed the positive effects of homeopathic approach on behavioral disorders

such as mental retardation, anxiety, depression, restlessness, stealing habits, etc in children, but there is no report on the level of speech and social development <sup>[6]</sup>. Dr Ketan Patel in Amish hospital (India) has studied the effect of homeopathy on children with CP. He discussed about the positive effects of homeopathy approach on IQ, understanding, calculating capacity and motor milestones but he did not evaluate the level of speech and social development with a standard test such as DDST II. He believes that homeopathy can help in the majority of cases. The improvement in most cases starts within the first two months of treatment. The maximum benefits

**Diagram 2-** The level of social development before and after treatment in the 2 groups.

can be derived within 12-14 months of treatment. The basic idea of homeopathic treatment is to put the majority of children to normal schools. There ideally, treatment should start from 2-2.5 years of age<sup>[7]</sup>.

In one study, the author describes his experience in assisting mentally disabled patients with homeopathy. In his patients' anamneses, common traits shared by some syndromes, pathologies and behavior, were taken into consideration, mainly to choose the most characteristic symptoms in each case. The study included 58 cases of patients suffering from this pathology: 28 females and 30 males, ages ranging from 1 to 49 years. Forty-seven had some disorders associated with mental disability. In those cases in which there were similarities between remedy and whole symptomatology, improvements in adaptation skills and in overall health were observed<sup>[8]</sup>.

In other study, there were children with speech and social developmental delay because of Attention Deficit Hyperactivity Disorder (ADHD). The study was performed in a pediatric practice with conventional and homeopathic backgrounds. Children's ages were 3-17 y. All of them received an individual homeopathic treatment. After an average treatment time of 3.5 months 75% of children responded to homeopathy, reaching a clinical improvement rating of 73%<sup>[9]</sup>.

## Conclusion

In general, based on the results of this study it was found that by adding homeopathy to the rehabilitation children with cerebral palsy, the level of speech and social development in the case group in comparison with the control group had no statistically significant difference. Due to the executive limitation, especially the lack of cooperation of parents for 4 months duration and the proved effects of homeopathy mentioned in different articles on the development of children with CP, it was not possible to reject the effects of homeopathy on speech and social development in

children with CP. As homeopathy is new in Iran, there is lack of information about it, and in order to improve of the quality of life in children with CP, further studies are suggested to determine:

- The effect of homeopathy approach on other types of cerebral palsy (extra pyramidal, tonic and ataxic).
- The effect of homeopathy approach on associated disorders of cerebral palsy such as seizures, mental and behavioral disorders and swallowing disturbances.
- The effect of different complementary medicine methods such as herbal medicine, acupuncture, manual treatment, breathing therapy, aromatherapy, neurofeedback, G therapy and so on in order to improve quality of life in children with CP.

## Acknowledgment

We would like to thank Chancellor and Vice-Chancellor for research of The University of Social Welfare & Rehabilitation Sciences for their financial support. We would also like to acknowledge Dr Rozita Fatemi, Dr Farshid Alaeddini and Dr Ali Mazaherinezhad for their cooperation.

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